Detailed Action

This Office Action is responsive to the amendments submitted on 2/21/2008.

Currently, claims 1, 3-26 are pending.

1. Applicant's arguments, with respect to the rejection(s) of claim(s) 2 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-6, 12, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (USPN 6,369,758) in view of ETSI EN 300 744 V1.4.1 (2001-01) (herein referenced as ETSI).

With regards to claim 1, Zhang teaches a method of determining the amount of signal power and interference power in a received signal, the received signal having a wanted signal and a plurality of interfering signals, the method comprising the steps of:

a) selecting a plurality (col. 10, lines 34-37) of first known structures (fig. 1: element TRS II: col. 4, lines 30-41) in the wanted signal (signal sent by a transmitter which is intended for the disclosed receiving unit);

b) processing the received signal in accordance with said plurality of first known structures to derive a set of amplitude values (col. 10, lines 29-37: correlation produces amplitude values, and a high value (above a threshold) has a high amplitude) corresponding to the said first known structures (correlation of the pseudo random training symbols); and

c) using the set of amplitude values to determine the power level for at least a portion of the received signal (Zhang: disclosed claim 4: The method wherein the weighting factor for each branch is determined from an average power and power variance determined from the pseudo random training symbol. Note that the TRS had a high correlation amplitude (value) that's why it was recognized as the TRS, and also TRS is within the received signal).

Zhang does not explicitly teach step a) including said plurality of first known structure being identified using a further known structure within the wanted signal.

ETSI teaches a plurality of first known structure (page 30: Table 9: synchronization bits) within the signal. One of ordinary skill in the art at the time of the invention would clearly understand that synchronization bits would be used in order to determine the location of other structures within the preamble (page 30: Table 9), wherein the preamble is obviously within the wanted signal.

Therefore in view of KSR, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the Zhang with the OFDM preamble standard of ETSI in order to yield predictable results and benefits such as location of other wanted structures within the wanted signal based on the location of the synchronization bits.

With regards to claim 3, ETSI EN 300 744 V1.4.1 (2001-01) teaches a method wherein step a) includes identifying locations of a further structure (identifying the location of the beginning of the preamble using the initialization bit) within the wanted signal and using the identified locations to derive the locations of said plurality of first known structures (page 30: Table 9: the synchronization bits (S17-S22) have a fixed location relationship with the initialization bit (S0)).

With regards to claim 4, ETSI EN 300 744 V1.4.1 (2001-01) teaches a method according to claim 2, where in said plurality of first known structures comprises Frequency Correction Bursts (page 30: Table 9: the synchronization bits (S17-S22) are used to synchronize the wanted received signal with the receiver, therefore it is a burst of data which corrects (realigns) the frequency of the received signal in the receiver).

With regards to claim 5, ETSI EN 300 744 V1.4.1 (2001-01) further teaches a method according to claim 3, wherein said further known structure comprises sync bursts (the synchronization bits are within the preamble therefore it is a sync burst, note that burst is taken to mean a short data length).

With regards to claim 6, Zhang further teaches a method according to claim 2, wherein the step of identifying said plurality of first known structures includes using pointers selected by said further known structure (col. 4, lines 19-28: a timing pointer is used to point to the beginning of each symbol).

With regards to claim 12, Zhang further teaches a method according to claim 3, wherein the step of identifying said plurality of first known structures includes using pointers selected by said further known structure (col. 4, lines 19-28: a timing pointer is used to point to the beginning of each symbol).

With regards to claim 18, Zhang further teaches a method according to claim 1, wherein step b) comprises correlating (col. 10, lines 29-37: correlation produces amplitude values, and a high value (above a threshold) has a high amplitude) the received signal with said selected plurality of first known structures (correlation of the pseudo random training symbols) to derive said amplitude values.

With regards to claims 19 and 22, Zhang further teaches a method according to claim 8, wherein step c) comprises determining mean (col. 17, lines 9-25: mean signal power) and variance (Zhang: disclosed claim 4) values for said amplitude values (the disclosed power and variance are inherently calculated based on the received training

symbols, and the training symbols inherently have a non-zero amplitude otherwise the training symbol would not be detected).

With regards to claims 20, 23, and 25, Zhang further teaches a method according to claim 9, wherein step c) further comprises using calibration factors to produce an absolute power value for the wanted signal (Zhang: col. 7, lines 18-70: equation 11: signal power).

With regards to claims 21, 24 and 26, Zhang further teaches a method according to claim 10, wherein step c) further comprises using said calibration factors to produce an absolute power value for the interfering signals (col. 5, lines 25-70: equation 4).

4. Claims 7-11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang USPN 6369758 in view of ETSI EN 300 744 V1.4.1 (2001-01) in further view of Defreese USPN 6493876.

With regards to claim 7, Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) teach a method according to claim 6. Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) remain silent with respect to disclosing a method wherein said pointers are stored in a look-up table, and step a) includes using said pointers to select said plurality of first known structures in said received signal.

Defreese teaches a method wherein said pointers are stored in a look-up table (Defreese: disclosed claims 16 and 17), and step a) includes using said pointers to select said plurality of first known structures in said received signal (Defreese: disclosed claims 16 and 17: mapping television channel to a television service identifier).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) with the teachings disclosed in Defreese in order to increase profits by providing an improved full service television system capable of sustaining two-way communications between a cable service provider and a cable service subscriber, deliver services such as World Wide Web browsing, E-mail, and deliver advanced television services such as a comprehensive channel navigator.

With regards to claims 8 and 14, Zhang further teaches a method according to claim 7, wherein step b) comprises correlating (col. 10, lines 29-37: correlation produces amplitude values, and a high value (above a threshold) has a high amplitude) the received signal with said selected plurality of first known structures (correlation of the pseudo random training symbols) to derive said amplitude values.

With regards to claims 9 and 15, Zhang further teaches a method according to claim 8, wherein step c) comprises determining mean (col. 17, lines 9-25: mean signal power) and variance (Zhang: disclosed claim 4) values for said amplitude values (the disclosed power and variance are inherently calculated based on the received training

symbols, and the training symbols inherently have a non-zero amplitude otherwise the training symbol would not be detected).

With regards to claims 10 and 16, Zhang further teaches a method according to claim 9, wherein step c) further comprises using calibration factors to produce an absolute power value for the wanted signal (Zhang: col. 7, lines 18-70: equation 11: signal power).

With regards to claims 11 and 17, Zhang further teaches a method according to claim 10, wherein step c) further comprises using said calibration factors to produce an absolute power value for the interfering signals (col. 5, lines 25-70: equation 4).

With regards to claim 13, Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) teach a method according to claim 12. Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) remain silent with respect to disclosing a method wherein said pointers are stored in a look-up table, and step a) includes using said pointers to select said plurality of first known structures in said received signal.

Defreese teaches a method wherein said pointers are stored in a look-up table (Defreese: disclosed claims 16 and 17), and step a) includes using said pointers to select said plurality of first known structures in said received signal (Defreese: disclosed claims 16 and 17: mapping television channel to a television service identifier).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) with the teachings disclosed in Defreese in order to increase profits by providing an improved full service television system capable of sustaining two-way communications between a cable service provider and a cable service subscriber, deliver services such as World Wide Web browsing, E-mail, and deliver advanced television services such as a comprehensive channel navigator.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chang et al. (US 2002/0041576) discloses storing said pointers in a look-up table (paragraph 23).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is (571)270-3231. The examiner can normally be reached on Monday through Friday: 9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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